Cedar River Instream Flow Commission

Final Minutes

SPU Water Quality Lab

September 3rd, 2014

Organizations/Members Present:

- Seattle Public Utilities -- Paul Faulds, Rand Little, Karl Burton
- Seattle City Light -- Liz Ablow, Nancy Huizar
- Washington Department of Fish and Wildlife -- Peggy Miller
- Washington Department of Ecology – Toni Smith
- NOAA Fisheries -- Randy McIntosh (by phone)
- US Fish and Wildlife Service -- Tim Romanski (by phone)
- Guests -- Chris Magirl, Scott Anderson - US Geological Survey

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I. **Call to Order:** Paul introduced himself as SPU's Acting Water Resource Manager. Paul will be in the acting position until SPU has completed the process to fill the position permanently. Rand called the meeting to order at 9:45 AM.

II. **Approval of Agenda:** Rand asked the IFC if there were any additions or modifications to the agenda. The agenda was approved as presented.

III. **Approval of Draft Minutes:** With the addition of Liz Ablow's name to the August meeting minutes the July and August meeting minutes were approved as presented.

IV. **News and Notes:** Randy mentioned that the public notice had been released for the dredging of the lower Cedar River. Paul reported that the sockeye broodstock collection weir was being installed today and sorting mode at Landsburg Dam began yesterday, Sept. 2nd. Paul added that 10 to 12 sockeye had passed Landsburg Dam over the last couple of weeks.

V. **Real Time Water Management:**

Hydrologic Conditions: Rand said that the general water supply conditions were good for this time of year. The reservoir has levelled off after the rain event last Friday and Saturday and we received even more rain last night. Both rain events were well above forecast for Cedar Falls with 1.5" last night and 2" over the prior weekend. August was wetter than average, whereas June and

July were below average for monthly rainfall. The 8-week moving average for inflows into Chester Morse Reservoir is approximately 60 cfs, and considered base flow conditions. SPU has met the voluntary augmented flow target range of 105 cfs to 115 cfs for the period beginning August 4th to the present. Currently, flows below Landsburg are slightly above 200 cfs. The HCP guaranteed normal minimum flow regime ramps up to 136 cfs on September 16th and 213 cfs on September 23rd. Estimated unregulated flows and actual flows have been very close to one another over the last month. At the beginning and end of the month, unregulated flows were slightly higher and, in the middle of the month, actual flows were slightly higher. Downramping criteria have been successfully met over the last month at all gauges. Downramping rates reached 0.96"/hour at the USGS gauge below Landsburg (#12117600) during the bump in flow from the recent rainstorm, but there was no exceedance of the allowable rate (1" per hour). Water consumption is similar to last year and below the 10-year average. SPU expects the annual total for 2014 to be very close to last year's total and well below the allowable level in the City of Seattle – Muckleshoot Agreement.

Rand presented the HFAM model run results, which assume current conditions on August 29th and the provision of high normal flows beginning October 8th. With the recent rains, the conditions are actually a little better now than they were on August 29th. The model run results indicate that, with 1 in 20 dry weather conditions, SPU would likely need to initiate mobilization of the pump plant platforms. However, even dryer conditions than 1 in 20 would need to occur to require pumping. The model run assuming August 29th current weather conditions and low normal flows indicates that SPU would not need to mobilize the pump plants if low normal flows were provided. Toni asked about the triggers for pump plant mobilization. Rand responded that the current trigger for pump plant mobilization is a reservoir elevation of 1545' with a forecast that indicates water supply conditions will not improve. At that time of year, the reservoir can drop 2 to 2.5 feet per week. A reservoir elevation of 1539' requires SPU to pump water from the reservoir into the river channel. Toni asked what the concerns were for instream resources at that time of year. Rand responded that redd hydration and spawning flows for salmon were the primary instream resource concerns. Paul mentioned that it may be a good idea for the IFC to get an update on the plan for construction of the new floating pump plant and associated reductions in mobilization time at a future meeting.

Rand reminded the IFC that a decision regarding high or low normal flows needs to be made by or before October 7th in order for the chosen flow regime to be implemented by October 8th. Low normal flows equate to 278 cfs below Landsburg (USGS gage 12117600) and high normal flows equate to 336 cfs at the USGS gage below Landsburg. To provide high normal flows, the Instream Flow Agreement (IFA) requires the reservoir to be above 1541.5' in elevation, a 30-day moving average for the Cedar River gage above the reservoir (USGS

gage 12115000) to exceed 31 cfs, and the 15-day moving average at the same gage to be above 32 cfs. The target frequency for providing high normal flows varies by week from October 8 through December 30 and ranges from 60% to 80% of all normal years, depending upon the actual week. A record of performance since the year 2000 is provided in the instream flow compliance metrics page of the HCP web site. Since 2000, the frequencies with which high normal flows have actually been provided have been greater than target frequencies for all weeks during this period. In 2002, SPU provided low normal flows until close to the end of the year but, in other years when low normal flows were provided after October 8th, the duration of the period for low normal flows was short because fall rains returned to allow high normal flows for the majority of the fall/winter period (October 8th-December 30).

***Lake Washington and Weather*:** Rand mentioned that he had talked to Ken Brettmann at US Army Corps of Engineers and Ken said that water storage conditions in Lake Washinton were quite good for this time of year. Currently, the lake elevation is higher than average and Ken doesn't think there's much chance the lake will go below 20' this year. The false lockage experiment is ongoing and the Corps is retrofitting the spillway gates.

***Fish Update*:** Rand reported that sockeye counts at the locks were approximately 65,000, which is less than half the original forecast/projection. Chinook counts indicate that Chinook salmon numbers will likely end up at less than half the 10-year average count. Karl reported that Chinook redd surveys would begin tomorrow, Sept. 4th when Karl and Aaron Bosworth (WDFW lead biologist for Lk. WA Basin) will float the Cedar River from just below Landsburg to River Mile 5. Paul mentioned that a planned effort by the County and the WDFW to sample additional Chinook carcasses in the Cedar River in 2014, had been abandoned. Paul added that there would be an effort to collect sockeye carcasses and otoliths in the Cedar River this year. The effort is funded by SPU and the consultant performing the work is West Fork Environmental.

Weather: Rand said the weather forecast called for early showers followed by high pressure moving in with sun expected by afternoon. Weather will improve for Friday through Sunday with temperatures eventually exceeding 80 degrees F. Next week will be cloudy and cooler. A week to moderate El Nino is still projected for fall and winter this year.

Rand asked the IFC whether they wanted to continue the voluntary augmented flow regime through the end of the base flow period on September 15. He reminded everyone that since the start of the period on August 5 SPU had met or exceeded the augmented voluntary at flow target range. Peggy asked what the risks would be to continue. Rand said that if significant amounts of reservoir storage were required to meet the target, it could affect reservoir storage and the probability of meeting the conditions to provide high normal

flows. So far, SPU had not used water from storage to meet the target flows. Rand said that the voluntary augmentation equated to approximately an extra 25 cfs flow in the river for another 2 weeks or 1/3 to ½ feet of storage in the reservoir, if some or all of that water had to be provided from reservoir storage. Rand mentioned that Holly said she was in favor of providing the augmented flows for 2 more weeks. Rand also said that SPU will likely not need to tap significant storage to provide the augmentation for the next week. The IFC agreed to recommend providing the water through September 16th, when the HCP minimum flow regime bumps up to 136 cfs.

VI. Supplemental Studies:

Peak Flow Adaptive Management Study Phase II

Chris provided a table that showed all the study topics (1-3), the components of each study that had been completed, and the components that were yet to be completed. As the IFC are aware, the design, installation and deployment of the accelerometer arrays was completed last summer. Chris mentioned that Andy and Karl would be working collaboratively to complete the data analysis. The plan is for Karl to be primary author for the technical report that will convey the results of the scour study to the IFC. Andy will be primary author of a journal article that will include the results from the scour study. Karl and Andy will work together to produce the technical report and the journal publication. Chris turned over the reporting of the accelerometer array retrieval efforts to Karl.

Topic 1 – Karl reminded the IFC that the array deployment strategy was to 1) place arrays in areas where sockeye spawned consistently year to year, 2) attempt to place the arrays in areas within sockeye spawning sites that appeared to be more susceptible to scour, 3) to sample shallower gravel depths with the upper accelerometer at or near 5 cm in depth, 4) to spread the sample sites out longitudinally throughout the river and 5) to attempt to sample confined, unconfined and partially confined areas. Karl reported that 45 of the 74 accelerometer arrays had been recovered by WCC crews and USGS and SPU scientists. The removal effort took less than half the time expected. One array was stolen last year between deployment and taking GIS locations. The April landslide below the town of Maple Valley completely displaced the 13 arrays in that site and those arrays were not recoverable. There were 4 additional sites (each with 5 arrays) where some or all of the arrays were lost. One 5 array site in an unconfined reach had one array that was not found but likely was not lost due to evulsion since the tops of the other arrays around it were found 3' down in a deposition zone. Another group of 5 arrays immediately downstream of the deposition area were all lost to evulsion. In addition, 2 sites in close proximity in a confined reach lost 9 out of 10 arrays to evulsion. Karl said that those 2 sites looked like they had lost between 0.5 to 1 meter of gravel/sediment compared to when the arrays were deployed. The

one array that was recovered from those two sites was found completely exposed, 4' above the current water line in some bushes. Chris said that he considered a recovery of 50% of the accelerometers quite successful, so the recovery rate of 61% was considered good.

Topic 2 – Off Channel Habitat Inventory and Peak Flow Assessment
Chris reported that the Rand and Karl had completed the original inventory and followed up by completing another inventory after the high flow event the Cedar River experienced in early March. USGS has completed an assessment of the length of side-channel habitats to compare with future conditions after peak flow events.

Topic 3 – Geomorphic Succession
Chris reported that USGS crews had characterized the geomorphic succession study reach. The USGS have also completed an assessment of 3 different off channel habitat types to investigate differences in juvenile fish use and insect assemblages. Results will come soon and a report is expected next year. Chris said that additional geomorphic/habitat characterization sampling will occur at two additional flow levels. Chris expects those efforts to occur this year or next spring and a report of the results to be available in 2016.

Rand mentioned that some rip rap had been identified at the top of one of the side-channels in the Topic 3 study reach, at a recently purchased property that SPU acquired last year. Discussions with the USGS indicated that a potential project to remove the rip rap needed further consideration before moving forward. The rip rap may be providing stability to a very productive side-channel. Karl said he thought the study reach was picked to represent a relatively unconfined reach in the Cedar River so peak flows were able to do work in the river channel like a natural river to create new fish habitats. Karl said he also thinks that an artificial and illegally placed rip rap wall at the top of a side-channel did not seem to fit the objective of allowing the river to meander and form new habitats. Chris said there may be benefits from leaving the rip rap in if it is desirable for the side-channel to be maintained and added that the rip rap would be blown out of its current position in a large flow event because King County's project upstream had changed the trajectory of the river away from the protective bedrock above the upstream end of the side-channel. Karl re-iterated that, his experience with fish habitats on the Cedar River leads him to the conclusion that leaving the rip rap in place did not make sense for topic 3's objectives or from the perspective of benefits to fish habitat. Rand indicated that it was time to decide what topics would be covered in the next meeting.

VII. October 1st IFC Meeting:

1) High normal/Low normal flow decision.
2) Updates on the letter to the Corps.

3) Update on plan for the Chester Morse pump plants

VIII. Meeting adjourned at 1:00 PM